

**Montana Board of Oil and Gas Conservation
Environmental Assessment**

Operator: Continental Resources, Inc.
Well Name/Number: Bettsye 2-8H
Location: NW NW Section 8 T23N R54E
County: Richland, **MT; Field (or Wildcat)** W/C (Bakken Horizontal)

Air Quality

(possible concerns)
Long drilling time no, 20 to 30 days drilling time.
Unusually deep drilling (high horsepower rig) no, 14,315'MD and 9,754'TVD
Possible H2S gas production slight
in/near Class I air quality area no
Air quality permit for flaring/venting (if productive) Yes, DEQ air quality permit required under 75-2-211.

Mitigation:

- ☒ Air quality permit (AQB review)
- ☐ Gas plants/pipelines available for sour gas
- ☐ Special equipment/procedures requirements
- ☐ Other: _____

Comments: no special concerns – using triple rig to drill to 15,656'MD, 14,907' MD and 9,768'TVD

Water Quality

(possible concerns)
Salt/oil based mud yes, freshwater and freshwater mud system on surface hole and oil based saltwater mud system on mainhole and saltwater for horizontal laterals.
High water table no
Surface drainage leads to live water no, nearest drainages are unnamed ephemeral tributaries to Carda Coulee, about 0.1 miles to the east and 1/5 to the west of this location.
Water well contamination none, all water wells shallow, less than 300' in depth.
Surface hole will be drilled with freshwater muds. Surface casing will be set at 1630' and cemented to surface.
Porous/permeable soils no, bentonite soils
Class I stream drainage no

Mitigation:

- ☒ Lined reserve pit
- ☒ Adequate surface casing
- ☐ Berms/dykes, re-routed drainage
- ☐ Closed mud system
- ☐ Off-site disposal of solids/liquids (in approved facility)
- ☐ Other: _____

Comments: 1630' of surface casing is will be adequate to cover the base of the Fox Hills and will be cemented to surface adequate to protect freshwater zones.

Soils/Vegetation/Land Use

(possible concerns)
Steam crossings none
High erosion potential no, small cut, up to 6.8' and small fill, up to 20.7', required.
Loss of soil productivity no, location will be restored after drilling if unproductive. If productive, unused portion of this drilling location will be restored.
Unusually large wellsite no, 400'X450' location size required for two wells.
Damage to improvements slight
Conflict with existing land use/values Slight
Mitigation
☐ Avoid improvements (topographic tolerance)
☐ Exception location requested
☒ Stockpile topsoil
☐ Stream Crossing Permit (other agency review)
☒ Reclaim unused part of wellsite if productive
☐ Special construction methods to enhance reclamation
☐ Other _____
Comments: Access will be over existing county road, #319 and existing trails. About 67' of new access road will be built into this location off the existing two track trail. Cuttings will be buried in the lined reserve pit. Reserve pit fluids will either be recycled or hauled to a commercial disposal. Pit will be allowed to dry and then closed by filling in with clay subsoils. No special concerns.

Health Hazards/Noise

(possible concerns)
Proximity to public facilities/residences buildings 2 mile to southwest of the location.
Possibility of H2S slight
Size of rig/length of drilling time Triple drilling rig/short 20 to 30 days drilling time
Mitigation:
☒ Proper BOP equipment
☐ Topographic sound barriers
☒ H2S contingency and/or evacuation plan
☐ Special equipment/procedures requirements
☐ Other: _____
Comments: no concerns

Wildlife/recreation

(possible concerns)
Proximity to sensitive wildlife areas (DFWP identified) n/a None identified.
Proximity to recreation sites none identified
Creation of new access to wildlife habitat no
Conflict with game range/refuge management no
Threatened or endangered Species: Species identified as threatened or endangered are the Pallid Sturgeon, Piping Plover, Interior Least Tern and Whooping Crane. Candidate species are the Greater Sage-Grouse and Sprague's Pipit.
Mitigation:
☐ Avoidance (topographic tolerance/exception)
☐ Other agency review (DFWP, federal agencies, DSL)
☐ Screening/fencing of pits, drillsite

Other: _____
Comments: No concerns.

Historical/Cultural/Paleontological

(possible concerns)
Proximity to known sites None identified
Mitigation
 avoidance (topographic tolerance, location exception)
 other agency review (SHPO, DSL, federal agencies)
 Other: _____
Comments: on private land

Social/Economic

(possible concerns)
 Substantial effect on tax base
 Create demand for new governmental services
 Population increase or relocation
Comments: no concerns

Remarks or Special Concerns for this site

Lateral Bakken horizontal well 14,907' MD and 9,768' TVD. No special concerns.

Summary: Evaluation of Impacts and Cumulative effects

No significant long term impacts expected, some short term impacts will occur.

I conclude that the approval of the subject Notice of Intent to Drill (does/**does not**) constitute a major action of state government significantly affecting the quality of the human environment, and (does/**does not**) require the preparation of an environmental impact statement.

Prepared by (BOGC): John Gizicki
(title:) Compliance Specialist
Date: May 2, 2014

Other Persons Contacted:

Montana Bureau of Mines and Geology, GWIC website

(Name and Agency)
Water wells in Richland County
(subject discussed)

May 5, 2014
(date)

US Fish and Wildlife, Region 6 website
(Name and Agency)
ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES MONTANA
COUNTIES, Richland County, Montana
(subject discussed)

May 5, 2014 (date)

Montana Natural Heritage Program Website
(Name and Agency)
Heritage State Rank= S1, S2, S3, S4 Location T23N R54E
(subject discussed)

May 5, 2014
(date)

Montana Cadastral Website
(Name and Agency)
Surface Ownership and surface use Section 8 T23N R54E
(subject discussed)

May 5, 2014
(date)

If location was inspected before permit approval:

Inspection date: _____

Inspector: _____

Others present during inspection: _____